TWO NEW STAPELIADS FROM CAPE PROVINCE†

L. C. LEACH

It is rather remarkable that so relatively soon after the discovery of *Stapelianthus choananthus* (Lavranos & Hall) R. A. Dyer, should come, not only the second example of the genus to be found in South Africa but that it should also be a cremnophilous pendulous species and again be found in the same area as plants of *Huernia pillansii* N. E. Brown, albeit a new subspecies of that taxon.

It should perhaps be mentioned that it was only after considerable discussion that it was finally decided to retain the two species in *Stapelianthus*. It was considered that the objections to the erection of a new genus to accommodate them remained the same as when the original transfer from *Stapelia* was effected by Dr. Dyer, and that their generic position should, therefore, remain unchanged, at least while the present somewhat confused situation within the tribe exists.

The comparatively frequent discoveries of new species of Stapeliad in a country so well collected causes one to wonder why they have remained undiscovered for so long. This may sometimes be explained by the phenomenon, often observed by the author to occur among some members of the tribe, of a rapid population "build up" followed by a consequent dramatic reduction in population density, resulting in the virtual disappearance of a species from an area where it had previously been plentiful.

However, no such process appears to have been operative in the present instance as the colony of *Stapelianthus* comprised a considerable number of plants of varying ages (some apparently quite old), while the *Huernia* has been found, also at different stages of development, at three different localities within two or three miles of the original gathering.

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The plants now described were collected while botanising in the Baviaanskloofberg and it is with pleasure that the *Stapelianthus* is now named for my friend and companion on many botanical expeditions, Col. R. D. Bayliss who, with his son William and the writer made up the party on this most interesting and rewarding excursion.

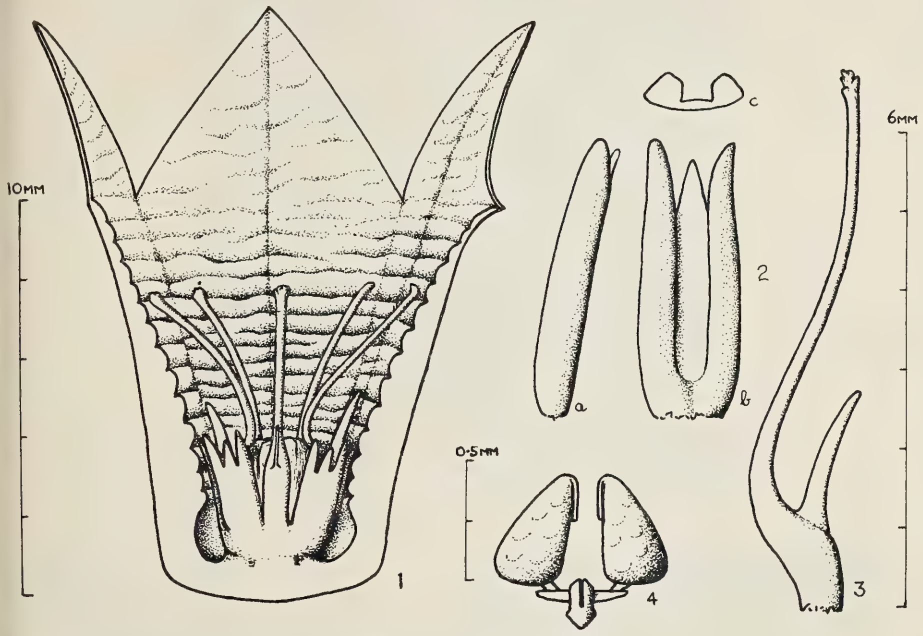
Stapelianthus baylissii Leach, sp. nov.

Stapeliantho choanantho (Lavranos et Hall) R. A. Dyer arcte affinis sed caulibus prominentioribus dentatis, apice floriferis; pedunculorum cicatricibus per totam longitudinem caulium dispersis; corollae tubo brevissimo, intra sigillatim transverse ruguloso; coronae interioris cornibus interioribus robustioribus, complanatis apice obtuso vel saepe leviter incrassato; polliniorum forma dissimili et folliculis brevissimis differt.

Planta succulenta, cremnophila, caulibus pendentibus. *Caules* quadrangulares, glabri, atro-virides vel in apricis brunnescens, 7—12 mm crassi usque ad 90 cm longi (plerumque 15—25 cm), inter angulos plani, juniores interdum aliquantum sulcati, angulis obtusis sinuato-dentatis, dentibus ad 5 mm altis, demum obsolescentibus, secus angulos 9—13 mm distantibus; caulibus lateralibus similaribus, dentium ex axillis emissis, profunde articulatis. *Flores* aliquot per pedunculum deinceps aperientes. *Pedunculi* crassi, cuspidati, 2—3 mm longi, caulium versus apicem inter angulos emissi; pedunculorum veterum cicatricibus per totam longitudinem caulium dispersis. *Pedicelli* glabri, teretes, 5—13 mm longi, c. 1·5 mm diam. *Sepala* ovato-attenuata, carnosa, convexa, 2·5—3 mm longa; dente minuto carnoso in sinubus inserto. *Corolla* campanulata, in sectione pentagona, glabra, rubropurpurea, 12—15 mm longa, inter apices loborum 12—13 mm diam.; *tubo* 8—10 mm longo, ad orem 9—10 mm diam., intus transverse ruguloso; *lobis* deltatis, erecto-patentis, c. 5 mm longis, basi usque ad 7·5 mm latis; lobis intermediis patentis c. 0·75 mm longis. *Corona* tubi basi exoriens, uniformiter fuscopurpurea, basi c. 3 mm diam., usque ad 7·5 mm alta; coronae exterioris lobis suberecto-patentis, c. 3·5 mm longis, c. 1·2 mm latis, intus prominenter bicarinatis, ad apicem 3-dentatis, dentibus lateralibus 1—1·4 mm longis, dente medio aliquantum breviore; coronae interioris lobis bicornutis, initio supra antheras incumbentibus, c. 0.5 mm latis, deinde cornu interiore parum patulo vel erecto, c. 5·5 mm longo, complanato, c. 0·3 mm lato; apice obtuso vel projecturis angulatis parvulis irregulariter sparsim munito; cornu exteriore erecto vel parum patulo, valde lateraliter compresso, longitudine variantissimus, usque ad 3 mm longo. *Pollinia* plus minusve obtuse triangularia, c. 0·5 mm longa. *Folliculi* fusiformes, plerumque c. 4 cm longi (usque ad 6 cm).

Type: *L. C. Leach & R. D. Bayliss 13617* (K; NBG; PRE, holotypus; SRGH).

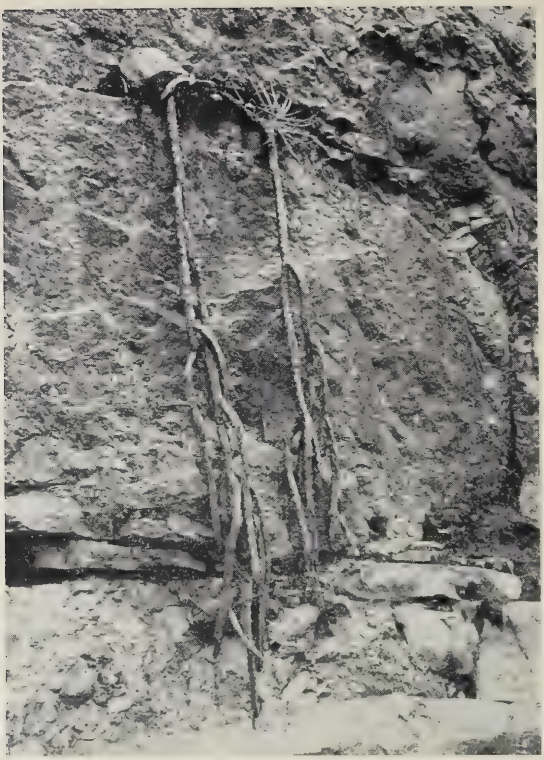
South Africa. Cape, 3324 (Steytlerville), near the eastern end of Baviaans' Kloof (-DA), fl. 30. xii. 1966, and later in cult. at Nelspruit, *Leach & Bayliss* 13617 (K; NBG; PRE; SRGH).



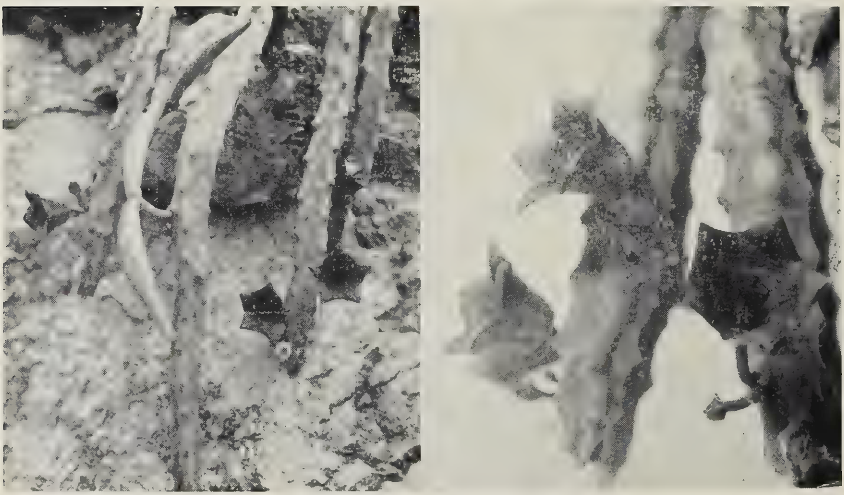
(1) Section through corolla showing corona.
(2) Outer corona lobe: (*a*) side view (*b*) inside view (*c*) section.
(3) Inner corona lobe.
(4) Pollinia.

FIG. 1. *Stapelianthus baylissii* Leach.

S. baylissii is very closely related to *S. choananthus* but the much shorter flowers are produced at the apex of the more prominently toothed pendulous stems which bear the scars of old peduncles for the whole of their length. The inside of the corolla is markedly transversely rugulose and the more robust, somewhat transversely flattened inner corona horns are obtuse or slightly thickened with a few small angular projections at the apex; finally the pollinia are a different shape and the follicles much shorter than are those of its nearest relative.



Cliff habitat at the type locality, Baviaans' Kloof



Apical inflorescence showing rugulose corolla.

PLATE 1. *Stapelianthus baylissii* Leach

In habit the new species bears a remarkable resemblance to the Huis River plants and occupies a very similar habitat, mostly in inaccessible, although generally more open situations, on almost vertical rock cliffs. It seems that the prostrate-pendulous habit is normal, as seedlings, having at first developed a single erect stem have now produced lateral branches from near its base; these are extended horizontally and are continuing to grow in a prostrate position while the initial stem appears to have ceased to grow. It appears that these prostrate branches would, in their normal habitat on ledges on cliff faces, very quickly be forced to assume the pendulous habit of all the plants seen in the wild.

Plant succulent, growing on ledges on sheer rock cliffs with the stems pendulous. *Stems* quadrangular (One 6-angled seen), glabrous, dark green in shaded situations, becoming brownish when exposed to the sun, branched from near the base or sparingly and intermittently along the length of the pendulous portions, deeply articulated at the point of attachment in the axils of the marginal teeth, up to 90 cm long (generally 15—25 cm), 7—12 mm thick, with the sides more or less flat between the angles or sometimes, when young, somewhat sulcate, with the scars and remains of old peduncles scattered throughout the length of the stems; the obtuse angles are sinuate toothed, prominently so when young, with the teeth up to 5 mm high, becoming less prominent and finally obscure with age, 9—13 mm apart along the angles. *Inflorescence* borne at or near the apex of the stems on a stout cuspidate peduncle 2·5—3 mm long, situated more or less midway between the angles. *Flowers* several, opening successively. *Pedicels* terete, c. 1·5 mm diam., 5—13 mm long, glabrous, green with numerous, slightly raised, minute whitish flecks. *Sepals* ovate-attenuate, thick and fleshy, convex beneath, 2·5—3 mm long, pale green with minute, whitish, slightly raised flecks, with a minute fleshy tooth in the sinuses. *Corolla* pentagonally campanulate, 12—15 mm long, 12—13 mm diam. across the lobe apices, outside somewhat yellowish at the very base, becoming deep purplish pink towards the apex of the lobes, glabrous or sometimes sparsely obscurely scabrid with slightly raised whitish flecks; inside red-purple, quite glabrous with a slight satin-like sheen. *Tube* 8—10 mm long, c. 7 mm diam. at the base outside, 9—10 mm diam. at the mouth, markedly transversely rugulose within, becoming less deeply so upwards and finally obsolescent on the lobes; there is a marked median groove from the base of the tube to the apex of the lobes so that the tube, towards the base, assumes a more or less decagonal cross-section, outside there is a corresponding nerve which becomes more prominent above. *Lobes* deltate, suberectly spreading or spreading, c. 5 mm long, up to 7·5 mm wide at the base. *Corona* arising from the base of the tube, uniformly dark purple, glabrous, about 3 mm diam. at the base, up to 7·5 mm high; *outer* *corona* lobes suberectly spreading, c. 3·5 mm long, c. 1·2 mm wide, prominently bicarinate on the inner face, 3-toothed at the apex with the central tooth somewhat shorter than the lateral which are 1—1·4 mm long; *inner corona* lobes 2-horned, c. 6·5 mm long, at first incumbent on the anthers with the inner horn erect or slightly spreading, c. 5·5 mm long, transversely compressed, c. 0·5 mm wide towards the base with the erect portion c. 0·3 mm wide, with the apices obtuse or slightly thickened with a few irregular angular projections; the outer horn laterally much compressed, erect or erectly spreading, very variable in length, up to 3 mm. *Pollinia* more or less obtusely triangular, c. 0·5 mm long. *Follicles* fusiform, widely diverging, generally c. 4 cm long (up to 6 cm).

Huernia pillansii N. E. Brown in Gard. Chron. **35:** 50 (1904) & Fl. Cap. **4,** 1: 909 (1909).—Berger, Stap. und Klein. 168 (1910).—Marloth, Fl. S. Afr. **3,** 1: 95, Pl. 22m (1932).—White & Sloane, Stap. **3:** 957 (1937).—Phillips, Fl. Pl. S. Afr. **22:** t.843 (1942).—Jacobsen, Handb. Succ. Pl. **2:** 627 (1960). Type: S. Africa, Cape Prov., Matjesfontein, *N. S. Pillans 23* (BOL; GRA).

Subsp. **pillansii**

South Africa. Cape, 3320 (Montagu): 3 miles E of Matjesfontein (-BA), *Pillans 23* (BOL; GRA); 23 miles E of Montagu, *Hall* in NBG *229/54* (NBG). 3321 (Ladismith), Ladismith, *Hall 878* (NBG). 3322 (Oudtshoorn), Prince Albert (-AA), *H. Bolus 11607* (BOL); Oudtshoorn (-CA), *E. Pillans s.n.* (BOL); Prince Albert, *Ryder s.n.* (GRA); Oudtshoorn Distr., *W. Taylor 38* (BOL); Oudtshoorn, *Tribelhorn* in NBG *860/61* (NBG). 3324 (Steytlerville), between Steytlerville and Jansenville, *Compton et al.* in NBG *1060/47* (NBG).

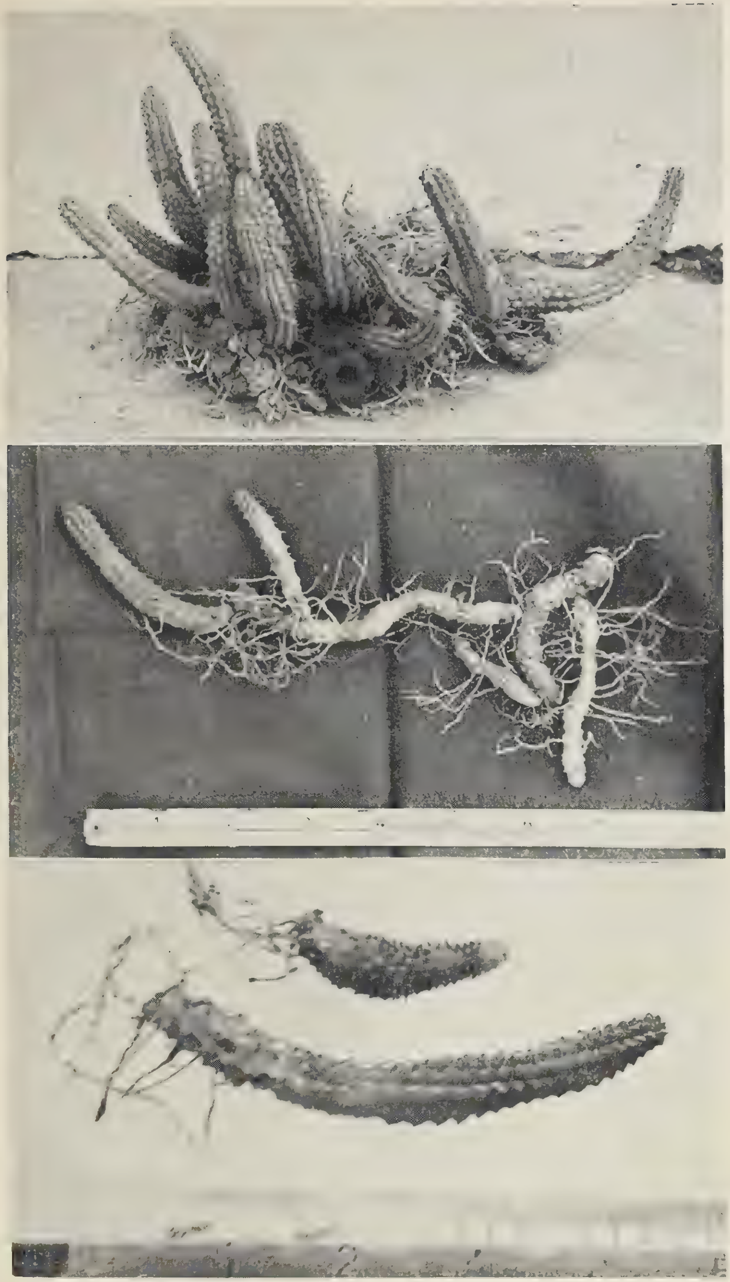
H. pillansii subsp. *pillansii* is so well known and illustrated that it is considered unnecessary to include either description or figure in this paper. In view of the setting up of subspecies however, the distribution records are thought to be of some importance.

Subsp. **echidnopsioides** Leach, subsp. nov., a subspecie typica caulibus tesselatis angulis paucioribus haud setosis, saepe habitu subterraneo rhizomatico bene distincta.

Type: South Africa, Cape Prov., *Leach & Bayliss 13612* (K; PRE, holotypus).

South Africa, Cape, 3324 (Steytlerville), near the eastern end of Baviaans' Kloof (-DA), fl. 30. xii. 1966, and later in cult. at Nelspruit, *Leach & Bayliss* 13612 (K; PRE).

The east to west mountain ranges of the Cape seem to provide optimum conditions for speciation and this process appears to be taking place in *Huernia pillansii*; however, in this instance where the flowers of the two taxa appear



Plant from shaded situation

Plant from shales, on open hillside

A comparison: subsp. *pillansii* above

PLATE 2. *Huernia pillansii* subsp. *echidnopsioides* Leach

to be identical, it is considered that evolution has not proceeded far enough, despite the wide divergence in vegetative characters, to justify separation at specific level. The new subspecies has an apparently isolated distribution towards the eastern end of Baviaans' Kloof, where it has been found at several points, growing in Karroo shales both in shade and in the open.

Subsp. *echidnopsioides* may be easily distinguished by its tesselate, relatively few angled stems which are quite devoid of the characteristic bristles of the typical subspecies and by the underground rhizomatic habit which frequently develops.

Plant succulent dwarf, caespitose, in open situations in shales a rhizomatic underground habit develops with the above-ground portions of the plant then consisting of scattered, mostly simple, short stems. *Stems* more or less terete with an obtuse apex, c. 1 cm diam, up to 16 cm long, with 8—10, usually 9, vertically arranged (sometimes in a slow spiral), closely set rows of tesselate tubercles, sharply sulcate between the rows; *tubercles*, 1—2 mm high with a small knob-like protruberance at the apex, 2·5—5 mm apart longitudinally (closer towards the apex of the stems).

Otherwise as the typical subspecies.

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